BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

PENNSYLVANIA PUBLIC UTILITY COMMISSION v.
PECO ENERGY COMPANY – ELECTRIC DIVISION
DOCKET NO. R-2021-3024601

DIRECT TESTIMONY

WITNESS: JOHN E. MCDONALD

SUBJECTS: DESCRIBING PECO'S ELECTRIC
OPERATIONS; PROVIDING AN
OVERVIEW OF PECO'S RATE FILING;
EXPLAINING PECO'S CAPITAL
INVESTMENT PROCESS; DESCRIBING
FULFILLMENT OF 2018 RATE CASE
COMMITMENTS; AND DISCUSSING
STEPS TAKEN BY PECO TO ENHANCE
QUALITY OF SERVICE, PROMOTE
ECONOMIC DEVELOPMENT, AND
SUPPORT DIVERSITY, EQUITY, AND
INCLUSION

DATED: MARCH 30, 2021

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1 2 3			DIRECT TESTIMONY OF JOHN E. MCDONALD
4			I. INTRODUCTION AND PURPOSE OF TESTIMONY
5	1.	Q.	Please state your name and business address.
6		A.	My name is John E. McDonald. My business address is PECO Energy Company,
7			2301 Market Street, Philadelphia, Pennsylvania 19103.
8	2.	Q.	By whom are you employed and in what capacity?
9		A.	I am employed by PECO Energy Company ("PECO" or the "Company") as
10			Senior Vice President and Chief Operating Officer. In that capacity, I lead
11			PECO's electric and natural gas distribution and transmission operations. These
12			operations include construction and maintenance, engineering and technical
13			services, investment strategy, safety, environmental, training, fleet, supply
14			operations, real estate and facilities, new business, and human resources. These
15			functions, in turn, are staffed by approximately 2,800 craft, professional, and
16			support employees. I also ensure that the operating groups are well integrated and
17			focused on safety, reliability, customer satisfaction, and diversity, equity, and
18			inclusion.
19	3.	Q.	Please summarize your prior professional experience.
20		A.	During the past 40 years, I have held numerous positions within PECO and its
21			parent Exelon Corporation. I will highlight a few of my more recent positions.
22			Before becoming Chief Operating Officer of PECO, I served as Vice President,

Utility Integration at Pepco Holdings, Inc. ("PHI") for nearly three years. PHI serves as the parent company for Atlantic City Electric, Delmarva Power, and Pepco, which is also owned by PECO's parent company, Exelon Corporation. In this role, I oversaw the project management initiative responsible for integrating PHI into the Exelon organization. Key areas of focus included merger commitments, synergy savings, utility operations, and reliability enhancements. Prior to that, I served in various leadership roles at PECO, including Vice President of Technical Services and director-level roles in Distribution System Operations, Transmission, and Regional Electric Operations.

4. Q. What is your educational background?

A. I earned my Bachelor of Science degree in Electrical Engineering and a Master's of Business Administration, each from Drexel University.

5. Q. What is the purpose of your direct testimony?

A. The several purposes of my direct testimony are as follows: (1) to generally describe PECO's electric distribution operations; (2) to provide an overview of this rate filing, including an introduction of the other witnesses who will present testimony in support of PECO's case-in-chief; (3) to explain PECO's capital investment process and to identify the types of projects that comprise PECO's claimed future test year ("FTY") and fully projected future test year ("FPFTY") plant additions; (4) to describe PECO's fulfillment of the commitments made by the Company as part of the settlement approved by the Pennsylvania Public Utility Commission (the "Commission") in PECO's 2018 electric base rate

proceeding;¹ (5) to describe various measures undertaken by the Company to ensure system safety and reliability and further enhance the quality of its service; and (6) to discuss measures taken by the Company to enhance the communities in which it operates and to promote economic development.

II. DESCRIPTION OF PECO'S ELECTRIC OPERATIONS

6. Q. Please provide an overview of PECO's electric distribution operations.

A. PECO provides electric distribution service to more than 1.6 million electric customers located throughout a 2,100 square-mile area in southeastern

Pennsylvania. The Company's electric service territory comprises all or portions of Bucks, Chester, Delaware, Montgomery, Philadelphia, and York Counties and includes a total population served of approximately 4.0 million people.

7. Q. What services does PECO offer its electric customers?

A.

PECO makes available electric distribution service and electric generation supply on an unbundled basis. In addition to those customers who have exercised their option to procure their own generation supply service and pay PECO for delivery (i.e., distribution) service only, the Company, as the default service provider, procures and delivers power to the homes or places of business of residential, commercial, and industrial customers not receiving service from an electric generation supplier ("EGS") or who return to default service after being served by an EGS which becomes unable or unwilling to serve its customers. In addition to

¹ See Pennsylvania Public Utility Commission vs. PECO Energy Company – Electric Division, Docket No. R-2018-3000164 (Order and Opinion entered December 20, 2018).

l			general service, and as set forth in the Company's electric tariff, qualifying
2			customers can avail themselves of a variety of outdoor-lighting, interruptible, and
3			other services.
4	8.	Q.	How does PECO's customer base break down by major customer
5			classification?
6		A.	As of December 31, 2020, we served 1,508,622 residential customers; 154,421
7			small commercial and industrial ("C&I") customers; and 3,101 large C&I
8			customers.
9	9.	Q.	What are the major assets and facilities that PECO utilizes to provide
10			electric service to its customers?
11		A.	PECO is the largest combined electric and natural gas utility in Pennsylvania. To
12			provide electric service to its customers, PECO operates and maintains
13			approximately 9,500 miles of underground distribution cable, approximately
14			13,000 miles of aerial distribution lines, and approximately 1,087 miles of higher-
15			voltage transmission lines. In addition, we operate and maintain 445 power
16			substations.
17			It is important to note that, generally speaking, this infrastructure is a mix of
18			reliable older and newer facilities and equipment. Consequently, a high level of
19			expertise in a variety of areas, as well as a significant capital investment, are
20			required to maintain and operate all of PECO's plant and equipment and to
21			provide the service and reliability that our customers have come to expect.

III. OVERVIEW OF RATE FILING

2 10. Q. Please summarize the relief that PECO is requesting through this rate filing.

A. PECO is seeking an increase in its annual base rate electric operating revenues of approximately \$246.0 million, or 7.0% based on total jurisdictional operating revenue. As required by the Public Utility Code, PECO's proposed tariff has been filed on 60 days' notice and, therefore, bears an effective date of May 30, 2021. However, we recognize that our filing will likely be suspended and investigated.

11. Q. Why is PECO requesting a rate increase at this time?

A.

Our last electric base rate filing was made in 2018. Since rates were established in that case, PECO has continued to make substantial investments in new and replacement utility plant to ensure that our customers can continue to receive the safe and reliable service they have come to expect. Indeed, between January 1, 2019 and December 31, 2022, the end of the FPFTY, we will have invested over \$3.1 billion in additional electric distribution plant. Our rate base will have increased by approximately 20.1%, from \$5.3 billion (as of December 31, 2020) to \$6.4 billion (as of December 31, 2022). At the same time, while we continue to add new customers, our overall sales are expected to slightly decline from 2019 to 2022 due, in large part, to our aggressive pursuit of energy efficiency and conservation through Commission-approved programs implemented in compliance with Pennsylvania's Act 129 of 2008 ("Act 129").

I	12.	Q.	Has PECO made efforts to control operating and maintenance ("O&M")
2			expenses since its last approved base rate increase in 2018?
3		A.	Yes. As discussed by Mr. Robert J. Stefani in PECO Statement No. 2, since the
4			Company's last electric distribution base rate case, PECO has carefully managed
5			its operation and maintenance ("O&M") expenses. PECO projects that the
6			compound annual growth rate ("CAGR") in O&M expense from 2019 through the
7			end of 2022 will be 1.4% when adjusted for major storms, customer reliability
8			improvements, make ready work, and COVID-19 related bad debt expense. This
9			rate is below the actual and expected average annual rates of inflation for the
10			same period.
11	13.	Q.	Please identify the other witnesses providing direct testimony on behalf of
12			PECO in this proceeding.
13		A.	In addition to myself, the following witnesses will be responsible for presenting
14			PECO's case-in-chief:
15			Robert J. Stefani (PECO Statement No. 2) is Senior Vice President, Chief
16			Financial Officer and Treasurer of PECO. Mr. Stefani provides an overview of
17			PECO's principal accounting exhibits; discusses PECO's budgeting process;
18			describes the services that PECO receives from affiliated entities and the
19			estimated cost of those services during the FTY and FPFTY.
20			Michael J. Trzaska (PECO Statement No. 3) is a Principal Regulatory and Rates
21			Specialist at PECO. Mr. Trzaska sponsors PECO Exhibits MJT-1, MJT-2, and

1 MJT-3, which set forth PECO's revenue requirement for the FPFTY ending 2 December 31, 2022, FTY ending December 31, 2021, and historic test year 3 ("HTY") ended December 31, 2020, respectively. He specifically supports 4 PECO's rate base, revenue, operating expense and tax claims. 5 Caroline Fulginiti (PECO Statement No. 4) is the Director of Accounting at 6 PECO. Ms. Fulginiti describes PECO's accounting processes, supports the 7 assignment and allocation of common costs between PECO's electric and gas 8 operations, and explains the development of the depreciated original cost of the 9 Company's utility plant in service and its claim for annual depreciation expense. 10 Paul R. Moul (PECO Statement No. 5) is the Managing Consultant of P. Moul & 11 Associates, Inc. Mr. Moul presents testimony concerning the rate of return that 12 PECO should be afforded an opportunity to earn on its rate base. He supports 13 PECO's claimed capital structure ratios, its embedded costs of debt, and its 14 requested equity allowance. 15 Tamara J. Jamison (PECO Statement No. 6) is the Manager, Revenue Policy at 16 PECO. Ms. Jamison presents an unbundled, fully allocated, customer class cost of service study ("COSS"). 17 18 Joseph A. Bisti (PECO Statement No. 7) is a Principal Regulatory and Rates 19 Specialist at PECO. Mr. Bisti presents PECO's proposed tariff rates and explains 20 how the results of Ms. Jamison's COSS, as well as the consideration of other 21 factors, were utilized in the rate design process.

Richard A. Schlesinger (PECO Statement No. 8) is the Manager, Retail Rates at PECO. Mr. Schlesinger discusses proposed changes and clarifications to PECO's tariff rules and regulations, proposed changes to several existing rates and riders, and the commitments from PECO's 2018 electric base rate proceeding regarding the operation of the Capacity Reservation Rider ("CRR") and Electric Vehicle Direct Current Fast Charging ("DCFC") Pilot Rider ("EV-FC Pilot Rider").

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A.

Jacqueline F. Golden (PECO Statement No. 9) is PECO's Director of Strategy. She discusses PECO's proposed pilot incentive programs for electric vehicle ("EV") charging and the Company's proposed small business recovery initiative.

Lauren B. Feldhake (PECO Statement No. 10) is PECO's Vice President of Customer Operations. Ms. Feldhake describes the Company's actions to assist residential customers during the COVID-19 pandemic, a new Residential Relief Program, expanded outreach and education plans for low to moderate income customers, and the Company's proposed allocation of universal service costs.

IV. PECO'S CAPITAL INVESTMENT PROCESS

How does PECO determine its annual capital investment requirements?

PECO's capital investment plan begins with a detailed budgeting and long-range plan ("LRP") development process. A key goal of that process is to integrate and align capital investments with PECO's strategic operational goals and regulatory and financial plans. The mix of capital investment needs can change from year to year and is the product of a variety of factors, including trends in the housing market, emergent operational constraints, local municipality workloads, and, most

importantly, the condition of existing facilities. Annual capital investment requirements are evaluated on a functional level and are placed primarily into one of five categories: corrective maintenance, system performance, capacity improvement, facility relocation, or new business.

System performance projects are risk modeled and evaluated to prioritize the projects for replacements. These projects are ranked based on certain criteria, including but not limited to age, failure rates, customer complaints, cost to replace versus cost to repair, condition of infrastructure, and environmental factors. Of particular note are system reliability and resiliency improvements under the Company's Customers Experiencing Multiple Interruptions ("CEMI"), Aerial Infrastructure Resiliency, and Underground Cable Replacement programs that all target replacement of infrastructure with higher risk profiles based on field observations and a review of performance metrics. Capacity improvement projects relieve capacity constrained areas which prevent the addition of new customers. Facility relocation projects move electric facilities away from conflicting township and state road improvements. Finally, new business projects support residential and commercial customer requests for new electric service, an upgrade of existing service, and the relocation of electric facilities.

Projects requiring a capital investment of over \$1.5 million ("Major Projects") are subject to an additional, rigorous review committee process which includes senior management control of project scope and contract strategy. The primary goals of the process are to ensure that:

1 2 3			(1) the technical merits of each Major Project are balanced with the economic benefits and goals of the Company;
4 5 6 7			(2) Major Projects are properly researched, developed, planned, reviewed, and authorized by senior management before significant resources are committed or expended; and
8 9			(3) decision points for consideration and approval of any additional funds are established as the details of Major Projects evolve.
10			All of these capital investment processes work together to ensure that PECO's
11			investments fully support safety, reliability, and customer service goals as well as
12			achieve an optimal operational efficiency.
13	15.	Q.	Please describe, in broad terms, the types of plant additions that PECO
14			expects to place in service during the course of the FTY and FPFTY.
15		A.	PECO's FPFTY and FTY plant additions are itemized by functional area and by
16			FERC account in PECO Statement No. 3, the direct testimony of Michael J.
17			Trzaska, Exhibit MJT-1, Schedule C-2, and MJT-2, Schedule C-2, for the FPFTY
18			and FTY, respectively.
19			In summary, our 2021 capital budget calls for overall electric plant additions of
20			approximately \$799 million, including, but not limited to, \$639 million in new
21			distribution facilities and nearly \$128 million in new transmission facilities. For
22			2022, we have budgeted overall electric plant additions of approximately \$843
23			million, including but not limited to \$643 million in new distribution facilities and
24			\$176 million in new transmission facilities.

1	16.	Q.	In your opinion, is all of the plant that PECO has included in its rate base
2			claim needed in order to provide safe and reliable electric service?
3		A.	Yes, it is. The assets included in PECO's rate base are, or by the end of the
4			FPFTY will be, in service and used by PECO to provide safe and reliable electric
5			service to customers.
6			V. FULFILLMENT OF 2018 RATE CASE COMMITMENTS
7	17.	Q.	In the Joint Petition for Settlement of Rate Investigation which the
8			Commission approved in PECO's last electric base rate proceeding at Docket
9			No. R-2018-3000164 ("2018 Settlement"), the Company, at pages 6-13, made
10			a number of commitments. Did PECO fulfill its commitments?
11		A.	Yes, it did.
12	18.	Q.	The rates in the 2018 Settlement included a reduction to rate base for the
13			excess accumulated deferred income taxes ("EADIT") amount as of
14			December 31, 2019 (the FPFTY in that case) that resulted from the Tax Cuts
15			and Jobs Act ("TCJA") reduction in the federal corporate income tax rate.
16			The 2018 Settlement also provided that PECO would revise its Federal Tax
17			Adjustment Clause ("FTAC") to refund the 2018 TCJA savings to
18			customers. Has PECO satisfied this commitment?
19		A.	Yes. Beginning on January 1, 2019, PECO began to refund the TCJA-related
20			2018 tax expense savings and the 2018 EADIT to customers on a bills-rendered
21			basis. As of January 1, 2021, PECO has fully credited the 2018 TCJA tax savings

to all customer classes through the FTAC, except for a small overcollection balance of approximately \$22,000. As explained by Mr. Trzaska in PECO Statement No. 3, PECO will continue to flow-back the balances of the regulatory liability for EADIT related to protected property over the average remaining book life in accordance with the Average Rate Assumption Method, which is approximately 40 years.

- 19. Q. In the Settlement Agreement, PECO also agreed to report on various specific expenditures. Please describe each reporting requirement and PECO's compliance with this commitment.
 - A. First, PECO agreed to provide the Commission's Bureau of Technical Utility Services ("TUS"), the Commission's Bureau of Investigation and Enforcement ("I&E"), the Office of Consumer Advocate ("OCA"), and the Office of Small Business Advocate ("OSBA") with an update on its electric division's actual capital expenditures, plant additions, and plant retirements by month for the twelve months ending December 31, 2018. Second, the Company agreed to provide a similar update on or before April 1, 2020 to include actual capital expenditures, plant additions, and plant retirements by month for the twelve months ending December 31, 2019. Finally, PECO agreed, in its next base rate proceeding, to prepare a comparison of its actual expenses and rate base additions for the twelve months ended December 31, 2018 to its projections in the 2018 electric base rate proceeding. PECO met each of these reporting commitments, which Mr. Stefani describes in detail.

20. Q. Please describe the remaining 2018 Settlement commitments and how PECO has met them.

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3 A. Residential and Low-Income Customer Issues. PECO agreed to implement several enhancements to various residential and low-income customer initiatives, 4 5 including (1) the enrollment process for PECO's customer assistance program 6 ("CAP") and CAP credit maximums used by the Company; (2) the budget for 7 PECO's Low Income Usage Reduction Program ("LIURP") and how LIURP 8 funds should be targeted; (3) the process for determining low-income status for 9 the purpose of winter termination protections; (4) the use of budget billing; (5) the 10 process for ensuring the low-income customers are not assessed a security 11 deposit; and (6) a language assessment of residents of PECO's service territory 12 and development of a written policy regarding service to customers with limited 13 English proficiency. Ms. Feldhake (PECO Statement No. 10) addresses how 14 PECO has met these commitments and describes what the Company is proposing 15 in this case to enhance assistance to low-income and other payment-troubled 16 customers.

EV-FC Pilot Rider. PECO committed to implement a five-year pilot EV-FC Rider as a means to encourage the development of electric vehicle charging and collect data regarding DCFCs connected to the PECO system from pilot participants. Mr. Schlesinger describes the DCFC data and the Company's proposed revisions to the EV-FC Rider in his direct testimony (PECO Statement No. 3).

CRR Reporting. PECO agreed to collect additional data regarding the cost of capacity reserved and other issues regarding the operation of the CRR. PECO also agreed to make the data available to the parties in its next electric base rate proceeding pursuant to the terms of a protective order. Mr. Schlesinger explains how PECO has met this data commitment and describes PECO's proposed changes to the CRR.

Α.

Vegetation Management Reporting. PECO agreed to report the number of ash trees removed per year, the average cost per ash tree per year, and the total vegetation management expense per year to TUS, I&E, OCA, and OSBA no later than April 1 of the following year until PECO's next base rate proceeding. The Company submitted its annual vegetation management report for 2019 on April 1, 2020. I will discuss PECO's vegetation management initiatives designed to enhance reliability and resiliency in more detail later in my testimony.

VI. QUALITY OF SERVICE, COMMUNITY SUPPORT, AND ECONOMIC DEVELOPMENT

21. O. What steps has PECO taken in recent years to ensure system reliability?

Each year, PECO invests heavily in its electric system to increase safety and reliability and to enhance the quality of the service it provides. PECO employs a risk-based analysis to prioritize its reliability-related investment in electric infrastructure with two high-risk profiles: (1) equipment that, based on a number of factors (including a trend of increasing failure rates), exhibits a higher probability of failure; and (2) equipment that would affect a large number of

1	customers and have longer restoration times and, therefore, warrants preemptive
2	and preventative measures to avoid failures.
3	In recent years, PECO performed the following targeted system enhancements
4	and corrective maintenance projects to continue its strong electric reliability
5	performance so that customers experience, on average, less than one service
6	interruption per year outside of major storms:
7 8 9 10 11	• Infrastructure improvements focused on areas and circuits where customers experience a higher number of sustained interruptions relative to the overall system average reliability. Customers served by transformers in the improved CEMI areas experienced a 41% improvement in the frequency of interruptions. ²
12 13	 Construction of new distribution substations and the addition of several large transformers at distribution substations to support localized load growth.
14 15 16 17 18 19 20 21 22	• Implementation of large substation retirement projects to remove aging or obsolete equipment and to convert surrounding distribution facilities to operate at higher (13 kV or 34 kV) voltages. PECO retired 19 unit substations and one building substation, some of which have been subject to flooding, during the 2018-2020 period and upgraded downstream low-voltage supply facilities. Increasing the voltage on lines that are currently feeders from existing substations will reduce losses and improve voltage regulation. Voltage up-rating will also increase the ability of those feeders to handle the interconnection of customer-owned solar facilities.
23 24 25	• Replacement of underground cable that has exhibited a rising trend in failure rates. Since 2018, PECO has replaced 118.5 miles of underground residential development ("URD") cable and 59.5 miles of main stem cable.
26 27	 Replacement of over 5,000 poles with modern equipment designed to withstand higher winds and snow/ice loading.
28 29 30 31	• Identification of circuits throughout PECO's service territory as candidates for priority reliability improvements and installation of reclosers, sectionalizers and distribution automation in various locations throughout the Company's service area to pinpoint problems and quickly restore

² CEMI is an index that tracks the number of customers that have experienced more than a specific number of interruptions in a given period. PECO has established a threshold of four interruptions per year.

service. Between 2018 and 2020, PECO installed 782 of these devices and avoided over 2.8 million customer interruptions over that period.

- Integration of smart technology to combine information from AMI meters, communication infrastructure, and the Company's upgraded geographic information and distribution management systems to improve situational awareness, operations, safety, and communications outreach during outages.
- In 2020, PECO transitioned to a four-year cycle for vegetation-related preventative maintenance work on approximately 2,600 miles of aerial distribution lines, and 200 miles of transmission lines continue to be maintained annually across a five-year cycle. The Company's distribution and transmission vegetation management programs are operated in conjunction with data-driven corrective maintenance programs, which include an annual focus on enhanced vegetation clearance to improve reliability as well as the removal of dead and declining trees to improve performance in areas where multiple tree-related interruptions have occurred, especially in storms.

22. Q. Mr. McDonald, please describe PECO's reliability performance since its last base rate proceeding.

- A. As a result of the Company's investments, including the projects I described above, PECO's electric reliability continued its historical trend and, beginning in 2012 and continuing through 2018, outperformed the Commission's preferred target level in each of the measures for which the Commission has established standards. Major storms in 2019 and 2020 caused PECO to miss Commission-defined levels of performance for interruption duration, while interruption frequency continues to meet preferred performance levels despite the storms.

 PECO's recent reliability performance is summarized below:
 - System Average Interruption Frequency Index ("SAIFI"): The three-year average number of sustained customer interruptions was 0.98 interruptions (2018-2020) compared to the benchmark of 1.23 interruptions and the three-year standard of 1.35 interruptions. PECO's average number of service interruptions decreased by 17% from 1.08 interruptions in 2019 to 0.90 interruptions in 2020.

1 Customer Average Interruption Duration Index ("CAIDI"): The three-year 2 average restoration time for PECO customers who lost power was 145 3 minutes (2018-2020) compared to the benchmark of 112 minutes and the 4 three-year standard of 123 minutes. PECO's recent CAIDI results show that the average time customers are without power has declined by 29% from 5 6 189 minutes (2019) to 135 minutes (2020). 7 System Average Interruption Duration Index ("SAIDI"): The three-year 8 average duration of interruptions that a PECO customer experiences during 9 a year was 144 minutes (2018-2020) compared to the benchmark of 138 10 minutes and the three-year standard of 167 minutes. PECO's SAIDI 11 performance improved significantly in 2020 compared to 2019 (from 205 minutes to 122 minutes). 12 The high level of storm activity of the last three years, and the last decade in 13 14 general, necessitate PECO's increased investment in infrastructure renewal, 15 enhanced tree trimming, removals, and upgrades to improve storm hardening and 16 system resilience. 17 23. Q. Does PECO have a commitment to continue to maintain and enhance 18 reliability? 19 Yes. Over the next five years (2021-2025), PECO will continue to focus on storm A. 20 hardening and resiliency and plans to invest approximately \$1.8 billion to 21 improve the reliability of its electric distribution system. These strategic 22 investments will help prevent customer outages, modernize the electric grid, and 23 reduce the impact of extreme weather on PECO's electric infrastructure. The 24 Company's capital improvement programs in 2021 and beyond will include: Storm Hardening and System Enhancement. PECO will replace aging 25

equipment and upgrade facilities to the latest construction standards for improved

distribution system reliability and resiliency to storms. PECO also plans to install

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at least 550 reclosers and perform other system enhancement work, which will reduce the number of customers and circuits affected by outage events and mitigate customer interruptions. Accelerating the installation of reclosers in problematic circuit sections will positively impact system SAIFI.

Underground Cable Replacement. Between 2021 and 2025, PECO will replace at least 250 miles of mainstem cable and nearly 1,000 miles of URD cable and upgrade associated equipment to the latest construction standards, including looping any radial URD cable.

Aerial Infrastructure Enhancement. PECO will replace aerial infrastructure to proactively address those facilities that are vulnerable to failures caused by agerelated degradation, normal environmental exposure, and ordinary wear and tear – factors that also increase the probability of storm-related damage. For example, the Company will install insulated aerial cable arranged in a special configuration to better withstand tree contact. PECO has already completed some installations in areas with dense tree coverage in an effort to strengthen its system against storms, increase reliability, and reduce outages. In addition, PECO will replace approximately 26,000 poles that were installed before 1965.

PECO's Top Priority Circuit Program. PECO analyzes and completes reliability enhancements on at least five percent of the system's worst performing circuits on an annual basis. Improvements include installing reclosers for distribution automation, identifying and repairing issues through visual thermographic

inspections, increasing vegetation management activities, installing and upgrading fuses, and replacing cable and other equipment.

Distribution Automation. PECO will continue to add distribution automation equipment to its circuits, applying the latest technologies to reduce the impacts to customers when outages do occur.

Target CEMI Areas and CEMI Targeted Circuits. PECO will address CEMI areas and circuits by reinforcing circuits with construction that can better withstand tree contact and storms as well as adding automated switching flexibility.

Substation Retirements. PECO will eliminate an additional 78 unit substations that are experiencing an increasing failure rate (i.e., those constructed forty or more years ago) and will upgrade all downstream low-voltage supply facilities to operate at higher voltages consistent with modern modes of operation. Nearly all of PECO's existing building substations that supply power to downstream facilities serving thousands of customers were constructed over fifty years ago and contain obsolete equipment. Over the next five years, PECO will retire an additional six building substations. These retirements will enhance system resiliency, and the associated upgrades to the downstream facilities will support the adoption of clean energy resources in PECO's service area.

Hazard Tree Removal. PECO will continue with its hazard tree removal program performing additional mid-cycle tree trimming, and in certain portions of its distribution system where the Company determines it to be appropriate, removing

trees and branches growing above and below the Company's distribution facilities to achieve "ground-to-sky" clearance.

Managing EAB. An invasive insect, the Emerald Ash Borer ("EAB"), has been present in PECO's service territory since 2012, resulting in a significant increase in ash tree infestation and mortality that has been linked to power interruptions. PECO projects that EAB infestation of ash trees in its service territory will peak during the 2021-2028 period. In 2018, PECO enhanced its vegetation management programs to include a targeted focus on the removal of an estimated 30,000 ash trees which are vulnerable to EAB infestation and threaten damage to PECO electric facilities and increase the potential for equipment failures.

The Company continues to refine its vegetation-related reliability improvement strategies based on a follow up assessment of the ash tree population in PECO's service area initiated in December 2020. In addition, PECO has accelerated its reliability programs, especially Distribution Automation, to minimize the impact of EAB-related power interruptions. These programs to address EAB-vulnerable ash trees will cost an estimated \$38 million over the five-year period from 2018 through 2022.

24. Q. What steps has PECO taken in recent years to enhance the quality of the service it provides?

A. The Company has undertaken several initiatives to improve its customer service.

For example, PECO expanded its communications capabilities so customers can interact with the Company using mobile devices. PECO deployed a mobile

application with features such as slide-to-pay (by credit card and e-check), outage reporting, and the ability to enroll in electronic billing, automatic payments, and budget billing. The Company also added a two-way outage text feature that enables customers to text "OUT" to report an outage and "STAT" to receive an outage status update.

PECO also upgraded the overall look and feel of its website and, consistent with applicable Web Content Accessibility Guidelines, updated its website's content to be accessible to people with disabilities. The Company's Customer Preference Center now also provides notifications to customers for "Bill is Ready," "Payment Reminders," "Usage Alerts," "Budget Bill," and "Outages."

The Company has also been voluntarily and proactively seeking to help customers during the COVID-19 pandemic. PECO has utilized emails, letters, and bill inserts to inform customers about special payment arrangements being offered during the pandemic. To facilitate participation in these special measures, the Company has automated the enrollment process so customers may sign up on the web or via Interactive Voice Response ("IVR"). As discussed in more detail by Ms. Golden in PECO Statement No. 9, PECO is proposing to offer small business customers in low-income areas a one-time grant of \$3,000 to be applied as a credit on the customer's existing electric account. In addition, PECO has implemented a variety of COVID-19 relief measures for residential customers described by Ms. Feldhake in PECO Statement No. 10.

1	Finally, the Company remains focused on how customers interact with its
2	Customer Care Center (i.e., PECO's call center). PECO staffs its Customer Care
3	Center to ensure customer demands are met and invests in training programs to
4	improve agent skills on an ongoing basis. Recent enhancements related to the
5	Customer Care Center include the following:
6 7 8 9 10	• The Company's "at-home agents" program, which enables the Company to have additional call center agents available for storm response during especially hazardous weather conditions thereby reducing the wait times of customers assisted by agents physically located in PECO's Customer Care Center.
11 12 13 14 15	• Post-call surveys, which give agents real-time feedback directly from customers focused on resolution of issues, courteousness, and knowledge, indicate that PECO customers are consistently rating our Customer Care Center agents highly. Through 2019 and into 2020, we have attained high scores of between 4.4 and 4.7 on a 5-point scale in each category.
16 17 18 19 20	• The Customer Care Center now employs approximately 13 bilingual Spanish-speaking agents, who can be more responsive to Spanish-speaking customers than non-Spanish-speaking agents. PECO's Spanish-speaking agents assisted approximately 8,585 customers in Spanish in 2018 and approximately 12,140 customers in Spanish in 2019.
21 22 23 24	• PECO's IVR was updated to include a "Pay Now" feature that enables customers to easily make a payment, which resulted in the reduction in the time of an average payment call by a minute and a half, or 25% (from approximately 6 minutes to approximately 4.5 minutes).
25	Over the next two years, the Company also plans to implement additional
26	customer service representative coaching and training to improve customer
27	experience and resolve customer questions during the first call, as well as
28	improved web and mobile capabilities to provide customers additional options for
29	self-service.

25. Q. Have these enhancements helped PECO improve its performance in the area of customer service?

A. Yes, they have. The effectiveness of PECO's approach to customer service is reflected in the fact that, in 2019, the Company experienced improvements over its 2014 performance in the following key metrics:

Metric	2014	2019
PECO's Overall Call Center Satisfaction	7.84	8.18
Index		
Overall Call Center Satisfaction	76.8%	85.8%
Average Speed of Answer	33 seconds	14 seconds
Abandon Rate	2.84%	1.0%

In addition, the PECO customer experience, as measured by J.D. Power, has improved from a score of 628 to 748 in the last five years. This has resulted in PECO's customer service ranking among comparative utility companies increasing to 4th out of 12 in 2019.

10 26. Q. Please describe PECO's leadership in the area of energy efficiency.

A. In 2009, PECO emerged as a leader with the early launch of its comprehensive "PECO Smart Ideas" portfolio of energy efficiency programs. These programs were designed to meet the retail energy consumption reduction requirements under the first phase of the Commission's energy efficiency and conservation program ("EE&C Program") established pursuant to Act 129. Since the EE&C Program's inception in 2009, PECO's residential and commercial customers have achieved energy rebates worth more than \$350 million and reflecting 4,230,075 MWh saved, enough electricity to power 506,000 homes for a full year. PECO

has been recognized repeatedly for its efforts, including receipt of the ENERGY

STAR® Partner of the Year award for 2012, 2013, 2015, and Partner of the Year,

Sustained Excellence Award in 2016, 2018, 2019, and 2020 for outstanding

contributions to energy efficiency.

A.

Now in the third phase of the EE&C Program, PECO continues to provide meaningful customer savings and comprehensive energy solutions. For example, despite the pandemic challenges of 2020, the Company continued to help low-income customers save money by safely mailing more than 32,000 self-install energy saving kits to them. In addition, PECO was awarded ENERGY STAR's New Construction Market Leader Award for the third year in a row for its commitment to energy efficient new home construction.

27. Q. Has PECO deployed advanced metering infrastructure ("AMI") meters in accordance with Act 129?

Yes. PECO has completed the installation of nearly 1.8 million electric AMI meters at customer premises. Despite many unforeseen challenges due to the COVID-19 emergency, the reading of those meters has consistently maintained first quartile performance (99.76%) since 2016 based on the three-year (2017-2019) industry average of 99.61%.

Consistent with previous years, customers are increasingly taking advantage of AMI meter capabilities. For example, since 2018, PECO customers with AMI meters utilized the interactive "My Usage" tool on the Company's website more than 1.7 million times each year on average. The remote connect and disconnect

function of AMI meters has significantly improved customer-requested connect and disconnect services as well as credit-related disconnect and restoration. In 2018 and 2019, 98% of customer-requested connects and disconnects were completed remotely and 99% of credit-related disconnects and restorations were completed remotely. This translates to an estimated 232,000 truck rolls and 79,000 Customer Care Center calls avoided in 2018 and 2019.

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Deploying AMI technology across the Company's service territory has also enabled PECO to reduce restoration times during major storms. Improved AMIbased storm restoration efforts have avoided over 27,500 truck rolls the past year (2020). PECO continues to explore innovative uses of its AMI technology. For example, PECO has installed over 3,100 distribution automation devices on the AMI network. Distribution automation provides the ability to automatically and remotely re-route power during faults on the system to enhance performance and improve reliability. In 2020, PECO issued nearly 100,000 remote commands to distribution equipment to limit human contact with high voltage equipment and reduce restoration times, with a 99.6% success rate. Real time remote monitoring of distribution switches allows PECO to proactively identify failing distribution equipment and make repairs before it impacts electric service to customers. In addition, remote monitoring of nearly 400 capacitors has reduced field inspection cycles from every year to every four years. These devices also enhance the Company's ability to manage the communication system by allowing PECO to dedicate channels for unrestricted use during reliability events.

28. Q. What actions is the Company taking regarding physical security and cybersecurity?

A.

PECO has made significant investments in physical security as part of the Exelon Utilities Security Facility Enhancement Program ("FEP") at electric and gas assets since 2015. In 2020, PECO committed to physical security enhancements at office buildings and service centers to align with a more robust physical security footprint. This is an Exelon-wide program to be completed by 2027. On a three-year cycle, the Company engages in a risk-based review of critical assets and implemented physical security measures designed to reduce vulnerabilities associated with possible unauthorized access of personnel, equipment, systems, and material at critical sites. PECO also maintains a surplus of critical supplies and major equipment (e.g., twenty-two new transformers were purchased in 2017/2018) stored at separate sites to facilitate system restoration following a disruption and to support its resiliency efforts.

In the area of cybersecurity, the Company employs the latest technologies and has adopted the National Institute of Standards and Technology National Cybersecurity Framework to protect PECO's systems and networks. PECO provides training on security awareness and preventing cyber-attacks and conducts annual internal drills on both physical and cyber threats and maintains a strong phishing awareness program. The Company has also made significant technology investments and operational improvements on the transmission side to strengthen its program 1) to comply with North American Electric Reliability

Corporation ("NERC") Critical Infrastructure Protection Cybersecurity Standards
and 2) as a part of a new Operational Technology Security Governance Project.

Finally, PECO is an active participant in "Black Sky" exercises to test

Pennsylvania's ability to respond to a large-scale disruption of power and utility services. The Black Sky initiative is coordinated by the Commission, the

Governor's Office of Homeland Security, and Pennsylvania Emergency

Management Agency.

29. Q. How has PECO enhanced retail competition since its last electric base rate proceeding?

A. PECO has worked in a collaborative fashion with the Commission and its Office of Competitive Market Oversight ("OCMO") to advance the development of the competitive electric market, including regular calls concerning retail market initiatives and customer complaints. PECO also conducts webinars with suppliers to highlight new developments and handles approximately 5,000 supplier inquiries per year.

In 2020, PECO deployed the Salesforce Customer Relationship Management platform to enable EGSs to perform high-value transactions that facilitate retail market participation, ranging from managing support tickets to accessing frequently requested customer information. Salesforce's cloud-based technology provides end users a first line of support, and empowers EGSs to find information, request services, and resolve their issues efficiently.

30. Q. What is PECO's record with respect to the safety of its employees?

A. Maintaining the highest standards for workplace safety is a top priority for the Company. A critical component of PECO's safety culture involves protecting our employees from serious injuries and fatalities ("SIFs"). To that end, PECO has undertaken initiatives to track incidents with potential for SIFs, identify their precursors, and take steps to reduce potential SIF events and eliminate SIFs. As a result of these efforts, PECO finished 2020 with zero SIFs. In 2021 and beyond, PECO will strive to continuously improve performance and foster a safety culture that engages the entire workforce to prevent accidents, injuries and occupational illnesses.

31. Q. Has the Company taken any recent actions with respect to distributed solar generation and other distributed generation ("DG") technologies?

A. Yes, the Company has implemented multiple initiatives to streamline the interconnection process, educate developers and potential solar/DG customers and improve the overall experience for solar/DG customers. These efforts are managed by PECO's Green Power Connect ("GPC") department, which is staffed by twelve PECO employees dedicated to providing new and innovative ways to incent more customers to install solar and interconnect to the grid.

PECO established a solar collaborative in 2016, the first of its kind in the region, to discuss how to best advance solar options for PECO's customers. The stakeholders included solar developers, environmental groups, public officials, utilities, and competitive electric suppliers. The latest solar collaborative was held

1	in January 2020 to hear from stakeholders and provide education on several
2	PECO process improvement programs. In conjunction with the solar
3	collaborative, the GPC team has held numerous meetings with developers to work
4	on day-to-day issues.

To further facilitate solar applications and solar interconnections, PECO created a Digital Solar Toolkit with an interactive viability map. With this toolkit, customers can see if their home or area can support solar or other distributed generation resources or if any system upgrades would be necessary.

Finally, PECO began offering a smart inverter option in 2018 as a means to minimize the costs of interconnection. The Company is also evaluating meter solutions for new DG service greater than 200 amps and expects to implement its findings in the second quarter of 2022.

32. Q. Mr. McDonald, please describe PECO's energy efficiency and environmental efforts regarding its own land, buildings, and emissions.

A. PECO's commitment to energy efficiency and environmental stewardship is also integrated in the Company's daily operations. PECO has established an environmental management system ("EMS") based on standards set forth in International Organization for Standardization ("ISO") 14001, which supports the development of performance-improvement goals and targets. Exelon, PECO's parent company, was recognized for its sustainability leadership as one of the "World's Most Innovative Companies" by Fast Company in 2019.

With respect to land quality, PECO has obtained Conservation Certification from the Wildlife Habitat Council for approximately one third of its rights-of-way (3,670 acres), which are managed under an integrated vegetation management program, and from the National Wildlife Federation for fifteen sites (170 acres). In 2020, PECO donated 1,040 trees via Arbor Day's Energy - Saving Trees program and awarded 24 Green Region grants totaling \$200,000 to enhance green space throughout the service area in partnership with Natural Lands Trust. The Arbor Day Foundation also recognized PECO in its 2021 Tree Line USA program for the Company's commitment to proper tree pruning, planning, and care in its service area. In addition, PECO partners with the Philadelphia Zoo to donate browse, which is leafy tree branches removed as part of the Company's vegetation management program, to feed the animals.

PECO also is focused on being a low-carbon company. From 2015-2020, PECO reduced its greenhouse gas emissions by approximately 29% through infrastructure investments such as the replacement of first-generation sulfur hexafluoride (SF6) filled electrical breakers. PECO's greenhouse gas reduction program is in alignment with the 2018 Pennsylvania Climate Action Plan goal of a 26% reduction in greenhouse gas emissions by 2025. PECO continues to maintain one of the largest urban green roofs in Pennsylvania (approximately one acre) built on an existing building at its headquarters in Philadelphia. Waste recycling continues to be a focus at PECO. Overall recycling increased from 94% (2016) to 97% (2020), and the Company recently launched an innovative pilot-

study using cameras in bulk waste containers to optimize waste pickup and disposal.

Finally, as part of PECO's habitat protection efforts, the Company developed a comprehensive avian protection plan to reduce bird mortalities associated with power line interactions. This plan includes establishing new distribution line construction standards, removing, or relocating nests, providing employee training on avian management and establishing bird perch deterrents. In 2019, PECO collaborated with Warrington Township and the Pennsylvania Game Commission to install an osprey nest on a pole overlooking the Bradford Reservoir to provide an alternative perch location. Additionally, through a partnership with the Electric Power Research Institute, PECO participated in a 2019 pilot program to install unmanned avian flight diverters and prevent bird collisions on transmission lines located downstream of the Conowingo Dam in Darlington, Maryland, which has the largest population of bald eagles east of the Mississippi River.

- 33. Q. Please describe the Company's efforts to support the use of alternative fuel vehicles and related technologies.
- A. PECO participates in the Edison Electric Institute's challenge to designate at least 5% of its Electric Operations' annual vehicle spending for plug-in technology.

 Exelon, the parent company of PECO, recently announced that its six utilities will electrify 30% of their vehicle fleet by 2025, increasing to 50 percent by 2030.

PECO operates its own green fleet of 932 hybrid, natural gas, electric, flex fuel, and biodiesel vehicles including 25 plug-in hybrid trucks, which will continue to grow in furtherance of PECO's goal to electrify 100% of its fleet by 2030. As of 2020, the Company's electrified fleet has saved approximately 253,000 pounds of carbon dioxide equivalent and approximately 37,000 gallons of fuel. The Company also encourages sustainable practices with employees by providing 86 EV charging stations, rebate programs, and bike racks at most Company locations.

PECO currently offers customers an EV rebate, rebates for installing level 2 EV chargers, and a special pilot rate (the EV-FC Pilot Rider) for the installation of DCFCs to support the build out of EV infrastructure in Pennsylvania. As explained by Ms. Golden in PECO Statement No. 9, the Company is proposing to expand the availability of the EV-FC Pilot Rider to include public transit charging and to offer several new pilot incentive programs for EV charging.

- 34. Q. Please describe PECO's efforts to support economic development and the communities in which the Company provides energy and its overall commitment to diversity.
 - A. PECO has a dedicated Economic Development Team that works cooperatively with local, regional, and state economic development officials as well as commercial and industrial real-estate professionals to assist businesses that are considering locating or expanding in southeastern Pennsylvania. For example, the Company identifies office and industrial space available for sale or lease, as well

as land available for development. PECO's Economic Development Team also provides information on electric and gas availability and prices to companies, developers, and consultants as key inputs to location decisions.

Moreover, as I discussed earlier, PECO makes significant capital and infrastructure investments in its service territory every year that create and maintain thousands of jobs in the region. In early 2020, PECO created a team dedicated to workforce development to attract talented and passionate candidates and support our region by providing opportunities to individuals from underserved communities. The Company also implemented a variety of workforce development programs to train individuals for opportunities at PECO. Every year, PECO recruits new electric and natural gas apprentices to complete the Company's intensive training program before joining PECO's field force. The field force represents PECO's front line and works to ensure safe and reliable electric and gas service for PECO customers across the region; the Company's training program develops the fundamental skills needed to work safely on PECO's electric and natural gas distribution systems.

PECO also partners with Philadelphia Opportunities Industrialization Center ("OIC") in support of the Smart Energy Technical Training program ("SETT"), which provides energy sector opportunities for the unemployed and underemployed. PECO's \$100,000 contribution to the program allows for soft skills training, construction and skilled trades ("CAST") test preparation, contractor training for entry-level vegetation and locator positions, and the development of a solar installation training curriculum. PECO's collaboration

also spans to include opportunities for the youth via internships and annual STEM Academies. PECO's contribution to workforce development initiatives exceeds \$1.3 million.

PECO has a strong commitment to diversity, both among its workforce and in the communities it serves. For example, PECO has employed minority and womenowned businesses, contractors, and vendors in its communities and has business relationships with local minority-owned banks. PECO supports diverse suppliers who represent the diverse customer communities we serve. In 2020, PECO awarded \$357 million to diversity certified suppliers, representing an increase of \$89 million over the previous year. PECO's supply personnel are also active members of numerous supplier diversity-focused organizations locally and nationally.

In 2017, Exelon became the first utility/energy services company to join the exclusive group of U.S.-based corporations that have achieved \$1 billion or more in annual, direct spending with minority and women owned businesses. Exelon's annual spending with diversity certified suppliers totals more than \$2 billion.

Other Billion Dollar Roundtable member companies include Comcast, IBM, Walmart, and Microsoft.

PECO also has a strong and continuing tradition of community involvement. The Company's corporate citizenship efforts are designed to improve the quality of life for the people who live and work in PECO's service territory, and include

1			support for education and the environment, sponsorships, employee volunteer
2			activities, and executive involvement on outside nonprofit boards.
3	35.	Q.	Mr. McDonald, based on the factors you discussed above, how do you
4			characterize PECO's record regarding the performance factor
5			considerations of efficiency, effectiveness, and adequacy of service identified
6			in Section 523 of the Public Utility Code?
7		A.	My assessment is based on PECO's demonstrated excellence with regard to the
8			quality and reliability of its service, its commitment to energy efficiency, its
9			willingness to embrace cost-effective new technologies, its vigilance in protecting
10			the safety of its workers, and its strong promotion of community and economic
11			development, all of which I have discussed above. It is also based on PECO's
12			significant and successful efforts to manage and control its operating expenses
13			since its last base rate case in 2018, as discussed by Mr. Stefani in PECO
14			Statement No. 2. Based on all of those factors, PECO has exhibited, and
15			continues to exhibit, superior management performance, which fully supports Mr.
16			Moul's recommendation that PECO receive return on equity enhancement.
17			VII. CONCLUSION
18	36.	Q.	Does that complete your direct testimony at this time?
19		A.	Yes, it does.